

# Impact of Magnetization Field/Torsion Field On The Formation Of Hexagonal Water Crystal

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**Abstract**—In this paper, the morphology growth of hexagonal water crystal under effect of magnetization field and “torsion field” was investigated. In order to conduct the experiment, we use permanent magnets having their own “torsion field” according to the study of A. I. Veineik [1] to consider how the proportion and the shape of hexagonal water crystal appear with different strength of magnetic field divided into three ranges: under 1500 gauss, from 1500 gauss to 3000 gauss, and over 3000 gauss. The experimental results revealed a remarkable difference between treatment water and no treatment one. The higher proportion of hexagonal water crystal happened in water samples treated with “torsion field”, from 1 to 4 successful samples in 30 samples. Otherwise, This difference also occurs in the three-range of magnetic field strength which was under 1500 gauss, from 1500 to 3000 gauss and over 3000 gauss, respectively. Moreover, in the range of over 3000 gauss, we conducted the experiments with different treatment time with “torsion field” to investigate the appearance rate of hexagonal water crystal according to the change of time in 12 hours, 24 hours and 48 hours, respectively. Under observation, when the strength of magnetic field was under 1500 gauss, the hexagonal water crystal was not perfect. Conversely, these hexagonal water crystals in the range of from 1500 to 3000 gauss were more perfect and complicated than those in the smaller range. For the rest part of the range, the proportion of hexagonal water crystal decreased or seldom appeared with different time of “torsion field” treatment. These empirical results proved that the “torsion field” of permanent magnets effect to the hexagonal water crystal formation.

**Keywords**—water crystal, crystal morphology, hexagonal water crystal, torsion field.

## I. INTRODUCTION

According to A. Chizhevskiy “It can be undoubtedly affirmed that every well-known physical phenomenon originates from the depth of matter; therefore we should look for the causes and laws of phenomena neither on matter nor among matter but in the most inaccessible for our perception areas of matter...” So that over the period of latter decades, variety of microscopic and macroscopic phenomena which were investigated in different countries could be unexplained by the framework of four know interactions: electromagnetism, gravitation, strong, and weak interactions. Therefore, if the scientific community cannot understand the essence of these observed phenomena by physical laws, the energies, emanations or fields which created these below

phenomena, these unexplainable phenomena would be named according to every scientist. For instance, N.A.Kozyrev's "time emanation", W.Reich's "O-emanation" or "orgone", A.I.Veinik's "chronal field", "M-field", Yu.V.Tszyan Kanchzhen's "biofield", V.V.Lensky's "multipolar energy", H.A.Nieper's "gravity field energy", T.T.Brown's "electrogravitation", "fifth force", "antigravitation", "free energy" [1]. Nonetheless, it should be emphasized that the fields creating numerous above phenomena were manifested by objects having spin or angular momentum. It is showed that the above unexplainable phenomena had a rigorous theoretical interpretation in the framework of torsion field (or spin field) theory.

The concept of torsion fields is not new. Torsion field, also called axion field, spin field, spinor field, and microlepton field is a scientific concept loosely based on Einstein-Cartan theory. They were the pioneers showing that there existed a close interconnection between gravitation and torsion [7]. According to G.I Shipnov, a Russian scientist and an author of book “Theory of physical vacuum”, there exists third long-range field containing significantly richer properties: the torsion field besides the two known long-range physical fields – electromagnetic and gravitational field. The characteristics of torsion field differ basically from the others of electromagnetic and gravitational field. Unlike electromagnetic and gravitation fields that have central symmetry, torsion fields have axial symmetry (figure 1). Spinning objects sets up polarization in two spatial cones, corresponding to the left, SL, and the right, SR, torsion fields. As indicated by the currently available experimental evidence, not only spin, but also rotation of bodies gives rise to torsion fields [2].

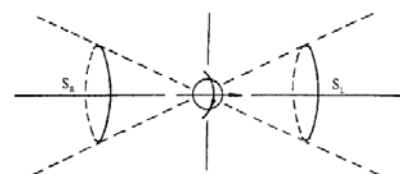


Fig. 1 Directionality diagram of static torsion field of an object with spin [2]

In the case of magnetization of ferro-magnets , the motion of electrons in circular molecular currents generate a sequencing of classical spins, and as the matter of fact this results from the sequencing of the orientation of magnetic moments. So, the magnetization of ferro-magnets results not only in the appearance of a collective magnetic field, but in appearance of a collective torsion field as well. Thus, any permanent magnet possesses its own torsion field. This fact was first experimentally discovered by A.I.Veinik [1]. Otherwise, according to many researchers, if any substance has polarization, it will have its own torsion field. Therefore, for our experiment in which drinking water is a polarized substance, it naturally has “torsion field”. Moreover, according to [1], the structure of the torsion field of every physical object can be altered by the influence of an external torsion field. Thus, it is expected that the “torsion field” of water will be effected by the external torsion field – permanent magnet’s torsion field and the magnetic field of permanent magnets.

## II. EXPERIMENTAL SET UP AND PROCEDURE

In order to examine whether or not the “torsion field” affect to the formation of hexagonal water crystal, we conducted an experiment with permanent magnets with different number of permanent magnet pairs: one pair, two pairs and three pairs which was showed in figure 2. Water after taking from water fountain was treated with “torsion field” of permanent magnets in cases of one pair, two pairs and three pairs in 24 hours. After treatment with permanent magnets, water was divided into 10 petri dish samples per position: top, middle and bottom with different strength of magnetic field in each case of quantity of permanent magnets which was clearly illustrated in figure 2.

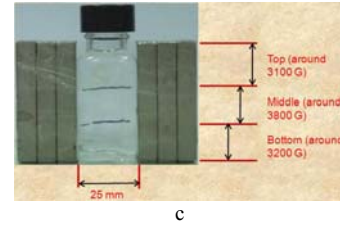
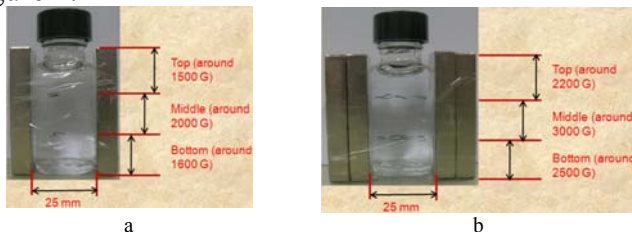


Fig. 1 Experiments with permanent magnets a. One pair; b. Two pairs ; c. Three pairs

Subsequently, all samples were frozen at  $-23^{\circ}\text{C}$  in the refrigerator. After 3 hours, the frozen samples were examined by utilizing microscope placed in another freezer with crystallization condition to observe the growth of the water crystal. We used NIS – Elements D version 3.0 program to capture the hexagonal shapes of water crystal. All equipments were described in figure 3.

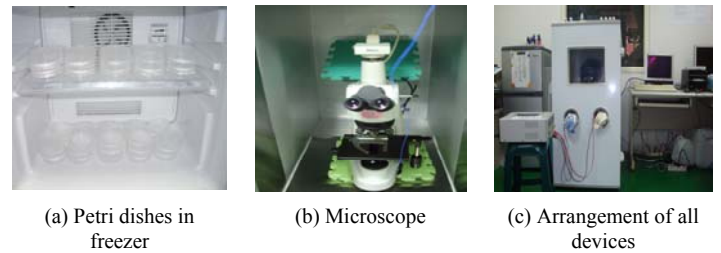


Fig. 3 The experimental set up

## III. RESULTS AND DISCUSSIONS

Through observing the empirical results, we realized that the water under effect of “torsion field” of permanent magnets had the higher rate of hexagonal water crystal than that of water without treatment with permanent magnets. These results revealed a stable and perfect hexagonal structure during melting process under observation through microscope. However, each position including top, middle, and bottom corresponding to different strength of magnetic field had the different appearance proportion of hexagonal water crystal. This proved that the strength of magnetic field or “torsion field” of permanent magnets had a strong impact on the formation of water crystal.

In order to express clearer how the strength of magnetic field of permanent magnets or “torsion field” affected to the hexagonal water crystal, we divided into three ranges: under 1500 gaussses, from 1500 to 3000 gaussses and over 3000 gaussses. The results obtained from below 1500 gaussses were displayed in figure 4. Although these pictures also had hexagonal shape in the center and form

hexagonal water crystal, these shapes seemed to be imperfect. In the range of 1500 gauss- 3000 gauss, the formation of hexagonal water crystal was more perfect than that in the range of smaller than 1500 gauss, which was illustrated in figure 5 and 6. In this range, the appearance rate of hexagonal water crystal was higher than two other ranges, which was often from 1 to 4 successful samples in 30 samples.

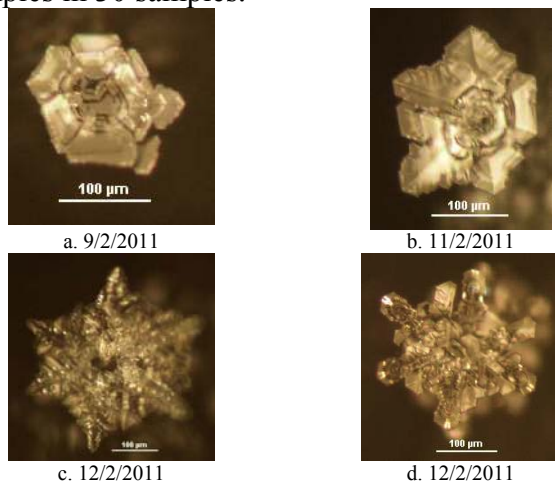


Fig. 4 Experiment results of water samples with treatment of torsion field of permanent magnet (below 1500 gauss)

Especially, the hexagonal shapes of water crystals in figure 6 corresponding to the strength of magnetic field being from 2200 gauss to 3000 gauss were more complicated and dendritic than those in figure 5 which were related to 1500 – 1600 gauss. The reason that was predicted that the higher the strength of magnetic field was, the larger the amplitude of libration (a rotational type, relative rotations of rigid  $H_2O$  molecules around their axes of rotations, also called hindered rotations) was. It will result in creating smaller water clusters and as the result, giving more compact structure the possibility to appear.

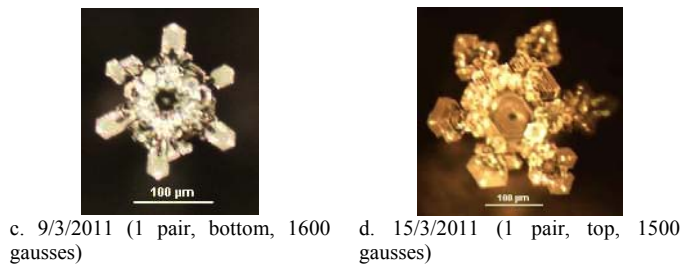
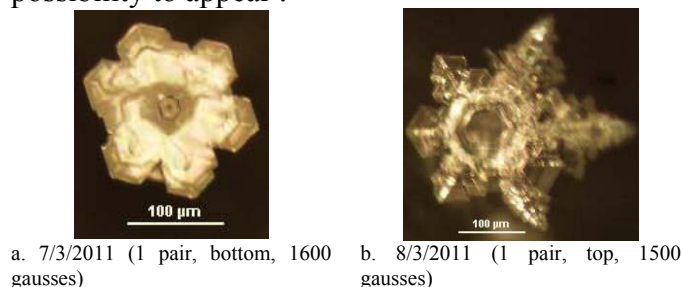


Fig. 5 Experiment results of water samples with treatment of torsion field of permanent magnet (from 1500 gauss to 1600 gauss)

In the remained range of magnetic field, over 3000 gauss, we exceptionally discovered the decrease of proportion of hexagonal water crystal. The perfect and stable hexagonal shapes seldom appeared in the case 24-hour water treatment with permanent magnet. In this case, as the figure 7 showed that the hexagonal shape of water crystals were so complex, particularly in figure 7 (a, c, d), it seemed to have more than one hexagonal water crystal and they overlapped each other. We supposed that under impact of high strength of magnetic field, the reorientation of hydroxyl was enhanced and more hydrogen bonds were established. It proved that more hydrogen-bonded molecules were established from non-hydrogen bonded ones due to the reorientation, combination and broken of hydrogen bonds happened continuously in a short time. In addition, we also conducted the experiments with 15-hour and 48-hour treatment with two other kinds of higher quality water (oxygenizer and Evian water) in the case of three pairs of permanent magnets. It is revealed that the results of 15-hour treatment had the same trend with 24-hour treatment mentioned above. It meant that the rate of perfect hexagonal water crystal was small (majority of one successful sample in the total of 30 samples and the successful time was seldom (until now, we only got 2 successful time in the total of over 15 experimental times)). For the remain case, it had no result for 48-hour treatment. Generally, in the case of over 3000 gauss, the results changed depend on the time for water treatment. The longer time the water was treated with magnetic field (over 3000 gauss), the less successful results we obtained. This proved that the water treatment time with permanent magnets effects to the formation of hexagonal water crystal.



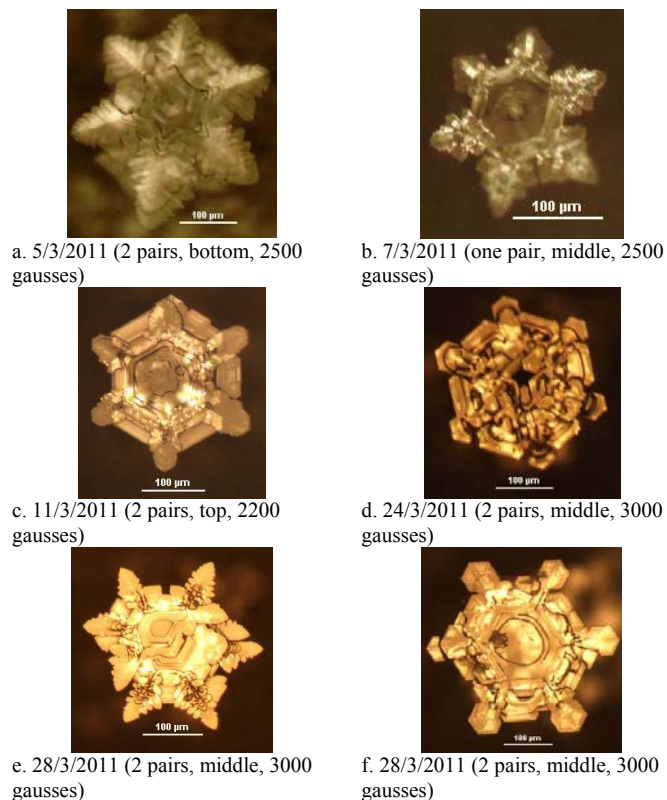


Fig. 6 Experiment results of water samples with treatment of torsion field of permanent magnet (from 2200 gauss to 3000 gauss)

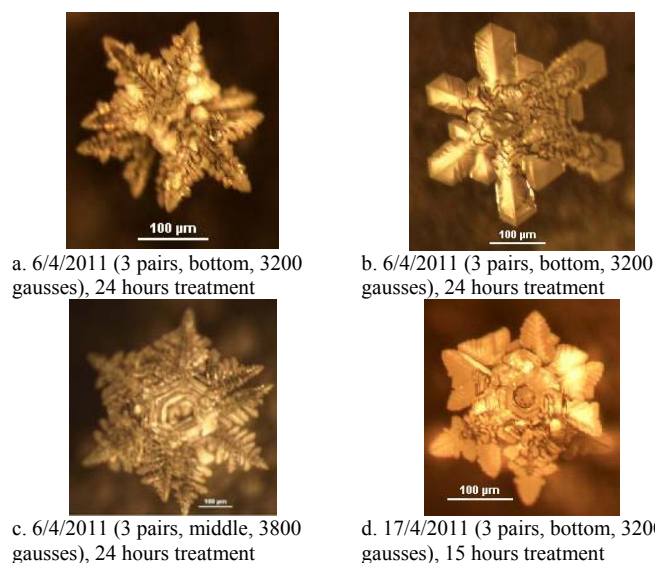


Fig. 7 Experiment results of water samples with treatment of torsion field of permanent magnet (over 3000 gauss)

As we noted in the introduction part, any permanent magnet possesses its own “torsion field” and the experimental results confirmed that the “torsion field” of permanent magnet impact to the proportion appearance of hexagonal water crystal which is showed above. Based on these results, the impact mechanism of permanent magnet’s “torsion

field” on water crystal was initially explained as following reason. According to these issues that is initially presented, if anything polarized, it had its own “torsion field”. In the case of water molecule, it was a polar molecule, with a marked electric dipole moment of 1.83 D ( $1\text{D} = 1\text{ Debye} = 3.34 \times 10^{-30} \text{ C.m} = 0.21 \text{ e}\text{\AA}$ ) [3], so the water molecules contained their “torsion field” and they are affected of the external “torsion field” of permanent magnets. Under the effect of external “torsion field”, the polarity of water molecule increased which is pointed out in [3] that the electric dipole moment of individual  $\text{H}_2\text{O}$  molecules in ice  $\text{I}_h$  (hexagonal ice) was of the order of 3.1 D (according to the properties of dipole moment: “the greater the dipole moment was, the greater the polarity in such a molecule was”). This increased polarity will make the H–O–H angle of water molecule slightly changed, from  $104.5^\circ$  in liquid water to in the vicinity of  $106^\circ$  in ordinary ice [3] and  $108.4^\circ \pm 0.2^\circ$  in  $\text{I}_h$  [5].

According to [6], the increase in hydrogen bond length has been correlated with the hydrogen bond strength and the resultant O–H stretch vibrations. Thus O...O distances within clusters were likely to be shorter than those at the periphery, in agreement with the icosahedral cluster model. When a hydrogen bond was formed between two water molecules, there was hydrogen bond cooperativity. Cooperative hydrogen bonding increased the O – H bond length while causing reduction in the H ... O and O...O distance [6]. It meant that short hydrogen bonds in water were strongly correlated with them being straighter. So, if the hydrogen bond was substantially bent then it followed that the bond strength was weaker. The main criteria to determine the strength of hydrogen bonds were their (relatively inaccurately determined) intermolecular distances and the (more precise) wavenumbers of their stretching vibrational modes and those of the donor hydrogen covalent bond. From the evidences of measurements in other researches, the wave number of the stretching intermonomer band in ice  $\text{I}_h$  appeared at  $214 \text{ cm}^{-1}$ , which was greater than that in liquid water, only  $200 \text{ cm}^{-1}$  [3]. This proved that the frequency of translations of individual  $\text{H}_2\text{O}$  molecules in  $\text{I}_h$  was greater than that in liquid water and, moreover, under the backup of another specific

frequency of external “torsion field”, the O – H bond length increased being correlated with the weaker the O – H covalent bond was. This resulted in the H...O bond length in ice was shorter and hydrogen bonds, concerning hydrogen atom lies on a direct line between the two oxygen atoms, straighter than in liquid water which created more stable and more perfect hydrogen bonds network in ice. Another reason that supported to the formation of hydrogen bond network in ice was polarization of individual water molecules. As discussed above, water treatment with external “torsion field” of permanent magnets will make individual water molecules more polarized (the electric dipole moment of individual H<sub>2</sub>O molecule in hexagonal ice was larger than that in liquid water) that reduced the hydrogen bond length, is expected to increase its covalency and this will increase the hydrogen bond network stability relative to purely electrostatic effects [6]. In addition, during melting phase of ice, water molecules and water clusters dislocated and packed close together that we mentioned in [4], it is clearly showed that the hexagonal water crystal appeared more in water having treatment with permanent magnets than in that without treatment.

#### IV. CONCLUSIONS

The empirical revealed that the drinking water under effect of “torsion field” of permanent magnets had the higher rate of hexagonal water crystal than that of water without treatment. These results showed that in the range of 1500 gaussses-3000 gaussses, the formation of hexagonal water crystal was more perfect than that in the range of smaller than 1500 gaussses. In this range, the appearance rate of hexagonal water crystal was higher than two other ranges, which was often from 1 to 4 successful samples in 30 samples. Especially, the hexagonal water crystal in the range of 2200 – 3000 gaussses was more complicated and dendritic than that related to 1500 – 1600 gaussses. In the remained range of magnetic field, over 3000 gaussses, we exceptionally discovered the decrease of proportion of hexagonal water crystal. The perfect and stable hexagonal shapes seldom appeared in the case 24-hour water treatment with

permanent magnets. In addition, we also conducted the experiments with 15-hour and 48-hour treatment with two other kinds of higher quality water (oxygenizer and Evian water) in the case of three pairs of permanent magnets. It is revealed that the results of 15-hour treatment had the same trend with 24-hour treatment mentioned above, the rate of perfect hexagonal water crystal was small (majority of one successful sample in the total of 30 samples and the successful time was seldom (until now, we only got 2 successful time in the total of over 15 experimental times)).For the remaining case, it had no result for 48-hour treatment. This proved that the water treatment time with permanent magnets effects to the formation of hexagonal water crystal.

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